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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/419,793	10/18/1999	TAKESHI WADA	P186-9025	1812

7590 04/10/2002

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EXAMINER

CAO, ALLEN T

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 04/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.
09/419,793

Applicant(s)
Wada et al

Examiner
Allen Cao

Art Unit
2652



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 3 20) ☐ Other:

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1. Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The phrases "less than 1.5 nanoseconds" in claim 2, line 3 is no enablement for a speed of less than 1.5 nanoseconds, especially as the speed approaches zero. Accordingly, the scope of the claim is not commensurate with the enablement of the disclosure.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-6 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Bajorek et al (US. 5,465,186).

Bajorek et al disclose a head suspension assembly having a magnetic head slider 50 with at least one thin film head element (figures 2a and 2b); a support member 73 for supporting the magnetic head slider at a top end portion thereof; a drive circuit (figures 6a-6c) electrically connected to the at least one thin film magnetic head element; and at least two diode elements (box 77, figures 6b and 6c) connected toward one direction in parallel with terminals which are connected across the at least one thin film magnetic head element. Bajorek et al also inherently disclose that each diode element having a turn-on voltage higher than the maximum output voltage of the at least one thin film magnetic head element because Bajorek et al disclose that these diodes

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are protected for damaging the head; therefore, it should be known that the turn on voltage of the diode must be at least equal or greater than the voltage of the head in order to protect the head from being damaged as set forth in claim 1. Bajorek et al further disclose that the diodes are formed within IC chip (figure 7, claim 3); wherein the IC chip is mounted on the support member (figure 7, claim 4); the at least one thin film head includes a MR effect element and an inductive recording element (figures 2a, 2b for claims 6 and 10). Bajorek et al further inherently disclose that the IC chip is mounted on the printed circuit board (claim 5).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 7-9 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bajorek et al.

Regarding claim 2, Bajorek et al do not disclose that diode has a turn on response speed equal or less than 1.5 nanoseconds.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to indicate/manufacture the response speed of the diode of the Bajorek et al equal or less than 1.5 nanoseconds through routine lab experimentation and optimization in order to improve the protection circuit for the head and also to speed up the read/write characteristics of the head.

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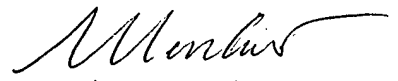
Regarding claims 7-9 and 11-13, Bajorek et al do not disclose that the MR element is a type of anitropic, giant or tunneling.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the MR element of Bajorek et al with one of such MR types as set forth, supra through an obvious engineering routine choice in an MR element technology. No new to replace from one type of the MR element to another type of MR element.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Murdock et al (US. 5,748,412) is cited to show a slider including a circuit having diodes.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Cao whose telephone number is (703) 305-3796.


ALIEN CAO
PRIMARY EXAMINER

AC

April 6, 2002